

What is claimed is:

1. Within a digital acquisition device with an adjustable optical system having an auto focusing mechanism, a method of perfecting said auto focus mechanism of said adjustable optical system as part of an image capture process using face detection in said image capture process to achieve one or more desired image acquisition parameters, comprising:
 - (a) identifying a plurality of groups of pixels that correspond to an image of a face within a digitally-captured image, and determining corresponding image attributes to said group of pixels; and
 - (b) perfecting said auto focus by performing said auto focus on said plurality of groups of pixels that correspond to said image of said face.
2. The method of claim 1, further comprising an initial step of performing said auto focus on the entire said image. capture
3. The method of claim 1, the method for auto-focusing the lens and the automatic adjusting automatically adjusting one or more properties of the adjustable optical system.
4. The method of claim 1, further comprising a user manually activating the camera to perform said perfecting said auto focus.
5. The method of claim 1, the face pixels identifying step being automatically performed by an image processing apparatus, the method further comprising manually removing one or more of said plurality of groups of pixels detected as faces.
6. A method of manually removing one or more detected faces as recited in claim 5, the method being performed in response to false detection of one or more regions as one or more faces.
7. A method of manually removing one or more detected faces as recited in claim 5, the method being performed in response to a determination to concentrate on less said image faces than faces identified n the identifying step.

8. A method of manually removing one or more detected faces as recited in claim 5, the method being performed by increasing a sensitivity level of said face identifying step.
9. A method of manually removing one or more detected faces as recited in claim 5, the method being performed by an interactive visual method.
10. An interactive visual method for manually removing one or more detected faces as recited in claim 9, the method being performed using an image acquisition built-in display.
11. A method of perfecting said auto focus mechanism as recited in claim 1, said performing said auto focus on said plurality of groups being done by calculating a weighted average on the individual objects of said groups.
12. The method of claim 1, the face pixels identifying step being automatically performed by an image processing apparatus which receives a relative value as to detection assurance.
13. A method of perfecting said auto focus mechanism as recited in claim 12, said calculating a weighted average being done based on said relative values as to the detection assurance.
14. The method of claim 1, the face pixels identifying step being automatically performed by an image processing apparatus which receives a relative value as to an estimated importance of said detected regions.
15. A method of perfecting said auto focus mechanism as recited in claim 14, said calculating a weighted average being done based on said relative values as to the estimated detection assurance.
16. The method of claim 14, the estimated importance of said detected regions of faces comprising at least one parameter including size of said faces, location of said faces within said captured image, or relative exposure of said faces, or combinations thereof.

17. Within a digital camera having a lens system, a method of adjusting a digitally-detected image based on detection of faces within the image to achieve a desired image parameter, comprising the steps of:

(a) identifying a group of pixels that correspond to a face within the digitally-detected image;

(b) determining initial values of one or more parameters of pixels of the group of pixels;

(c) automatically adjusting values of the one or more parameters of the pixels of the group of pixels based upon a comparison of the initial parameter with the desired parameter.

18. The method of claim 17, the initial parameter and the desired parameter comprising an initial focus and a desired focus, respectively.

19. The method of claim 18, the method for auto-focusing the lens, and the automatic adjusting step automatically adjusting one or more properties of the lens system.

20. The method of claim 17, the one or more parameters of pixels of the group of pixels comprising a location of the face within the digitally-detected image.

21. Within a digital camera having a lens system, a method of adjusting a digitally-detected image based on detection of faces within the image to achieve a desired image parameter, comprising the steps of:

(a) identifying a group of pixels that correspond to a face within the digitally-detected image;

(b) determining initial values of one or more parameters of pixels of the group of pixels;

(c) automatically providing an option for adjusting values of the one or more parameters of the pixels of the group of pixels based upon a comparison of the initial parameter with the desired parameter.

22. The method of claim 21, the initial parameter and the desired parameter comprising an initial focus and a desired focus, respectively.

23. The method of claim 22, the method for auto-focusing the lens, and the automatic adjusting step automatically adjusting one or more properties of the lens system.

24. The method of claim 21, the one or more parameters of pixels of the group of pixels comprising a location of the face within the digitally-detected image.

25. Within a digital acquisition device with an adjustable optical system having an auto focusing mechanism, one or more processor readable storage devices having processor readable code embodied thereon, said processor readable code for programming one or more processors to perform a method of perfecting said auto focus mechanism of said adjustable optical system as part of an image capture process using face detection in said image capture process to achieve one or more desired image acquisition parameters, the method comprising:

(a) identifying a plurality of groups of pixels that correspond to an image of a face within a digitally-captured image, and determining corresponding image attributes to said group of pixels; and

(b) perfecting said auto focus by performing said auto focus on said plurality of groups of pixels that correspond to said image of said face.

26. The one or more storage devices of claim 25, further comprising an initial step of performing said auto focus on the entire said image capture.

27. The one or more storage devices of claim 25, the method for auto-focusing the lens and the automatic adjusting automatically adjusting one or more properties of the adjustable optical system.

28. The one or more storage devices of claim 25, further comprising a user manually activating the camera to perform said perfecting said auto focus.

29. The one or more storage devices of claim 25, the face pixels identifying step being automatically performed by an image processing apparatus, the method further comprising manually removing one or more of said plurality of groups of pixels detected as faces.

30. The one or more storage devices of manually removing one or more detected faces as recited in claim 29, the method being performed in response to false detection of one or more regions as one or more faces.

31. The one or more storage devices of manually removing one or more detected faces as recited in claim 29, the method being performed in response to a determination to concentrate on less said image faces than faces identified in the identifying step.

32. The one or more storage devices of manually removing one or more detected faces as recited in claim 29, the method being performed by increasing a sensitivity level of said face identifying step.

33. The one or more storage devices of manually removing one or more detected faces as recited in claim 29, the method being performed by an interactive visual method.

34. The one or more storage devices of claim 33, the interactive visual method for manually removing one or more detected faces being performed using an image acquisition built-in display.

35. The one or more storage devices for perfecting said auto focus mechanism as recited in claim 25, said performing said auto focus on said plurality of groups being done by calculating a weighted average on the individual objects of said groups.

36. The one or more storage devices of claim 25, the face pixels identifying step being automatically performed by an image processing apparatus which receives a relative value as to detection assurance.

37. The one or more storage devices of perfecting said auto focus mechanism as recited in claim 36, said calculating a weighted average being done based on said relative values as to the detection assurance.

38. The one or more storage devices of claim 25, the face pixels identifying step being automatically performed by an image processing apparatus which receives a relative value as to an estimated importance of said detected regions.

39. The one or more storage devices of perfecting said auto focus mechanism as recited in claim 38, said calculating a weighted average being done based on said relative values as to the estimated detection assurance.

40. The one or more storage devices of claim 38, the estimated importance of said detected regions of faces comprising at least one parameter including size of said faces, location of said faces within said captured image, or relative exposure of said faces, or combinations thereof.

41. Within a digital camera having a lens system, one or more processor readable storage devices having processor readable code embodied thereon, said processor readable code for programming one or more processors to perform a method of adjusting a digitally-detected image based on detection of faces within the image to achieve a desired image parameter, comprising the steps of:

- (a) identifying a group of pixels that correspond to a face within the digitally-detected image;

- (b) determining initial values of one or more parameters of pixels of the group of pixels;

- (c) automatically adjusting values of the one or more parameters of the pixels of the group of pixels based upon a comparison of the initial parameter with the desired parameter.

42. The one or more storage devices of claim 41, the initial parameter and the desired parameter comprising an initial focus and a desired focus, respectively.

43. The one or more storage devices of claim 42, the method for auto-focusing the lens, and the automatic adjusting step automatically adjusting one or more properties of the lens system.

44. The one or more storage devices of claim 41, the one or more parameters of pixels of the group of pixels comprising a location of the face within the digitally-detected image.

45. Within a digital camera having a lens system, one or more processor readable storage devices having processor readable code embodied thereon, said processor readable code for programming one or more processors to perform a method of adjusting a digitally-detected image based on detection of faces within the image to achieve a desired image parameter, comprising the steps of:

(a) identifying a group of pixels that correspond to a face within the digitally-detected image;

(b) determining initial values of one or more parameters of pixels of the group of pixels;

(c) automatically providing an option for adjusting values of the one or more parameters of the pixels of the group of pixels based upon a comparison of the initial parameter with the desired parameter.

46. The one or more storage devices of claim 45, the initial parameter and the desired parameter comprising an initial focus and a desired focus, respectively.

47. The one or more storage devices of claim 46, the method for auto-focusing the lens, and the automatic adjusting step automatically adjusting one or more properties of the lens system.

48. The one or more storage devices of claim 45, the one or more parameters of pixels of the group of pixels comprising a location of the face within the digitally-detected image.